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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MOHAMAD NOURMOHAMADIAN and JAMES WALCH

Appeal 2009-005446
Application 10/655,948¹
Technology Center 2100

Decided: December 10, 2009

Before JAMES D. THOMAS, JAY P. LUCAS, and JOHN A. JEFFERY,
Administrative Patent Judges.

LUCAS, *Administrative Patent Judge.*

DECISION ON APPEAL

¹ Application was filed on September 5, 2003. Appellants claim the benefit under 35 U.S.C. § 119 of provisional application 60/459,081, filed March 31, 2003 and others later filed. The real party in interest is Ultera Systems, Inc.

STATEMENT OF THE CASE

Appellants appeal from a final rejection of claims 16 to 24 under authority of 35 U.S.C. § 134(a). Claims 1 to 15 are cancelled. The Board of Patent Appeals and Interferences (BPAI) has jurisdiction under 35 U.S.C. § 6(b).

The rejections are reversed.

Appellants' invention relates to apparatus and method for simulating an automatic loader of computer tapes (i.e. a tape stacker) using faster disk recording technology. In the words of Appellants:

[0003] The installed base of backup application programs are configured for tape storage. Historically, tape storage is utilized for backup due to low media cost, large storage capacity and removable media characteristics. Tape storage, however, provides relatively slow data transfer rates and can only be accessed sequentially. By contrast, when disk storage is viewed as a tape, it provides relatively fast data transfer rates and random access. Further, advances in disk technology have increased disk performance, storage capacity and data reliability as well as reduced cost. The data formats of disk storage and tape storage, however, are incompatible, as described below. A virtual tape system based upon disk storage technology advantageously converts between tape and disk data formats. Further, by emulating tape devices, the virtual tape system performs this conversion transparently to existing backup application programs.

[0023] FIG. 3 illustrates a virtual tape system 300 which advantageously enhances the features and functions of a conventional tape backup system 100 (FIG. 1), described above. The virtual tape system 300 has a virtual tape controller 400, disk storage 330 and optional tape storage 350. The virtual tape controller 400 utilizes the disk storage 330 to create virtual tape storage. In this manner, the virtual tape system 300 appears

to the application program 130 as conventional tape storage 170 (FIG. 1), but with the random file access and high data transfer rates of disk storage. Thus, advantageously, the virtual tape system 300 transparently provides performance enhancements and reliability enhancements to backup, restore and archival applications while preserving investments already made in storage equipment and application software.
(Spec. ¶¶ 03, 23).

Claim 16 is exemplary:

16. A virtual tape stacker comprising:
a server interface adapted to communicate with a server;
a random access data storage device;
a data path adapted to communicate with the random access data storage device; and
a controller configured to transfer data between the server interface and the random access data storage device via the data path;
wherein the controller manages the data on the random access data storage device as a plurality of virtual tape volumes,
wherein the controller defines a virtual tape drive for transferring data between the server and the virtual tape volumes,
wherein the controller defines a sequential order for loading the virtual tape volumes into the virtual tape drive, and
wherein, in response to an eject command from the server, the controller unloads one of the virtual tape volumes from the virtual tape drive and loads a next consecutive one of the virtual tape volumes into the virtual tape drive according to the sequential order.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Keele	5,455,926	Oct. 3, 1995
Dailey	2004/0098244 A1	May 20, 2004

REJECTIONS

The Examiner rejects the claims as follows:

R1: Claims 16 to 24 stand rejected under 35 U.S.C. § 102(b) for being anticipated by Keele.

R2: Claims 24 stands rejected under 35 U.S.C. § 103(a) for being obvious over Keele in view of Dailey.

Groups of Claims:

The claims will be discussed in the order of the rejections with claim 16 representative. *See* 37 C.F.R. § 41.37 (c)(1)(vii); *see also In re McDaniel*, 293 F.3d 1379, 1383 (Fed. Cir. 2002) (“If the brief fails to meet either requirement [of 37 C.F.R. § 1.192(c)(7)], the Board is free to select a single claim from each group of claims subject to a common ground of rejection as representative of all claims in that group and to decide the appeal of that rejection based solely on the selected representative claim.”).

Appellants contend that the claimed subject matter is not anticipated by Keele, or rendered obvious by Keele in combination with Dailey, for failure of the references to teach claimed subject matter. The Examiner contends that each of the claims is properly rejected.

Only those arguments actually made by Appellants have been considered in this opinion. Arguments that Appellants could have made but chose not to make in the Briefs have not been considered and are deemed to be waived.

ISSUE

The issue is whether Appellants have shown that the Examiner erred in rejecting the claims under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a).

The issue turns on whether Keele teaches the claimed ejecting of one virtual tape volume and loading the next in accordance with a defined sequential order of tape volumes.

FINDINGS OF FACT

The record supports the following findings of fact (FF) by a preponderance of the evidence.

1. Appellants have invented a virtual tape stacker that simulates the automatic loading of computer tapes by loading virtual tape volumes on a random access storage device, such as a disk drive. (Spec. ¶ 05). A virtual sequence tape stacker stores multiple virtual tape volumes onto the disk drive in accordance with a defined sequential order. (¶¶ 33, 34). When one virtual tape volume is ejected, the next tape volume in accordance with that order is loaded. (*Id.*).
2. The Keele reference teaches an optical disk storage system that emulates a tape storage system such that no modification to a mainframe is needed when swapping the patented disk system for the old magnetic tape system. (Col. 18, ll. 20-30). A tape directory is maintained that identifies the volume serial numbers of the virtual tapes that are stored on the disk. (Col. 43, ll. 42-54).

PRINCIPLES OF LAW

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a

rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.”) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

“In reviewing the [E]xaminer’s decision on appeal, the Board must necessarily weigh all of the evidence and argument.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

In rejecting claims under 35 U.S.C. § 102, “[a] single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation.” *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005) (citation omitted).

ANALYSIS

From our review of the administrative record, we find that the Examiner has presented a *prima facie* case for the rejections of Appellants’ claims under 35 U.S.C. §§ 102 and 103. The *prima facie* case is presented on pages 3 to 20 of the Examiner’s Answer. In opposition, Appellants present a number of arguments.

Arguments with respect to the rejection of claims 16 to 24 under 35 U.S.C. § 102(e) [R1]

Appellants’ first argument is that “[t]he [E]xaminer does not establish that Keele teaches, explicitly or inherently, a controller that defines a sequential order for loading virtual tape volumes. The [E]xaminer merely

asserts that Keele is able to load/unload a virtual tape in the order in which they are written to optical disks.” (Brief 7, top).

We have reviewed Appellants’ arguments in view of the claim language. The relevant limitation reads, “wherein the controller defines a sequential order for loading the virtual tape volumes into the virtual tape drive”. In Keele, the controller loads the tapes and presents the operator with a directory. The directory defines “a list of the virtual tapes on the disk side. The tape directory 318 identifies the virtual tapes on the disk side.” (Col. 43, ll. 57 to 59). Irrespective of whether this directory is created before or after the virtual tape loading, it nevertheless defines a sequential order which may be used for any purpose.

Appellants continue with a second argument: “Further, the [E]xaminer does not establish that Keele teaches, explicitly or inherently, a controller that unloads a virtual tape volume and loads a next consecutive one [according to the sequential order] in response to an eject command.” (Brief 7, middle). (parenthetic wording is from claim 16). In response to this limitation, the Examiner presented no less than eight citations from the Keele reference that purport to teach that on encountering an eject command the controller unloads a virtual tape from the virtual drive and loads the next virtual tape from the defined sequential order. (Answer 7, 8). We have reviewed these citations and indeed the whole reference and do not agree with the Examiner. Though the reference teaches reading and writing the sectors sequentially through the disk (col, 40, l. 66), and mounting and dismounting the tapes (col. 40, l. 8), we found no teaching of loading the next tape according to a defined sequence after unloading pursuant to an eject command. That sequence of steps is not present in the reference.

We thus agree with the Appellants, that the rejection of claim 16 and all the other claims which contain this limitation (i.e. claims 16 to 24) is in error.

*Arguments with respect to the rejection
of claim 24
under 35 U.S.C. § 103 [R2]*

The Appellants argue that the Examiner's support of the rejection under 35 U.S.C. § 103 is insufficient, and the mere statement that the Dailey reference is used "[t]o further detail Keele's disclosure" does not properly state a reason for a rejection under the statute. (Brief 12, top). It appears from the totality of the final rejection that Dailey is used by the Examiner to teach disk-based tape emulator using magnetic disks being combined with the teaching of the optical ones in Keele. (Final Rejection 18, bottom). This point was not argued by Appellants.

The Examiner did properly present the rejection under 35 U.S.C. § 103 in the Answer, and it was argued in turn by the Appellants in the Reply Brief. (Reply 5, bottom). The issue is the same as in claim 16 above.

We have reviewed the Dailey reference, and find that it does not cure the deficiency of the Keele reference with regard to the eject command explained above with regard to the rejection under 35 U.S.C. § 102. This point was argued by the Appellants, who properly point out error in the rejection. (Reply 5, bottom). We agree that the rejection under 35 U.S.C. § 103 is in error.

CONCLUSIONS OF LAW

Based on the findings of facts and analysis above, we conclude that the Examiner erred in rejecting claims 16 to 24 under rejection R1 and claim 24 under rejection R2.

DECISION

The Examiner's rejection of claims 16 to 24 under 35 U.S.C. § 102(b) [R1] is reversed.

The Examiner's rejection of claim 24 under 35 U.S.C. § 103(a) [R2] is reversed.

REVERSED

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